

Clinical Section

Major Trigeminal Neuralgia or Tic Douloureux

by OLIVER S. WAUGH, M.D., C.M. (McGill), F.A.C.S.

Professor of Surgery, University of Manitoba

In Charge of Department of Surgery, Winnipeg General Hospital

Facial neuralgias have been recognised for several hundred years. As early as the 13th century Bishop Button's Tomb in Wells Cathedral, England, became a shrine visited by those suffering from this affliction, in hope of receiving relief.

At the present time these neuralgias have been classified under their various etiological heads, but the cause of trigeminal neuralgia or tic douloureux still remains a secret. Many theories have been advanced, but the fact remains that no pathological changes have been found in the 5th nerve, the gasserian ganglion, or the nerve nuclei within the brain stem, to account for the symptoms. Sex apparently plays no part, and although it occurs chiefly in those over 50 years of age, it also occurs in the 2nd and 3rd decades.

The glossopharyngeal nerve is the only other nerve in the body that can produce similar symptoms. Both of these nerves supply the oral cavity, and this fact may signify that the nerve endings are the original source of the stimulus that produces such disastrous effects. This may be even more significant when one realises that tic douloureux almost invariably starts either in the mandibular or maxillary divisions of the 5th nerve; the supraorbital, when involved, only entering the picture secondarily.

Symptoms

Major tic is characterised by a sudden onset of a paroxysmal, stabbing, lancinating tearing, pain, over the distribution of the maxillary or mandibular division of the 5th nerve, more frequently on the right side. When well established, the pain is one of the most agonising that a human being is called upon to suffer. The duration of the pain is usually only a minute or two, but while it lasts, the afflicted one holds his head with his hands, and remains motionless until it has passed off, when he is again perfectly well, but apprehensive of another attack.

The radiation of the pain is parallel to the direction of the distribution of the main branches of the nerve, and is confined entirely to the area supplied by this nerve. As time passes, two or even all three branches may become involved. Therefore, facial pain due to trigeminal neuralgia must have a distribution in the skin of one side of the face, lips, nose or forehead, up to, but never across the mid-line, and unilaterally in the tongue, and buccal mucous membranes.

This type of recurring attacks of pain may continue for days or weeks; an attack may occur frequently during the daytime, but seldom wakes

the patient when he is finally able to get to sleep. The precipitating cause of an attack may be a cold draught, sneezing, talking, eating, or touching one of "The Trigger Points." A "Trigger Pt." is a small area situated at the corner of the mouth, over the chin, side of the nares, or at the outer angle of the eye. They are called trigger points, because if one of these areas is touched, or rubbed, an attack is immediately precipitated. Frequently during the period of attacks, these patients are afraid to eat or drink, and often talk with the jaws clamped together (for fear of bringing on an attack).

After a period of days or weeks the attacks may stop as suddenly as they started, and the patient may remain entirely free of them for many months, but they invariably recur.

With the recurrences the periods of freedom become shorter, and in long standing cases the attacks may be continuous, with no remissions.

As a result of the inability to take food without aggravating the attacks, elderly people become very emaciated and weakened.

Atypical Neuralgia

I will not discuss the various atypical facial neuralgias, and their differential diagnosis, as this would be too time consuming, but a quotation from Frazier, who wrote a classical description of atypical neuralgia will at least give some idea of the difference between the typical or major trigeminal neuralgia, and the other atypical neuralgias.

Frazier says of atypical neuralgia: "The pain is not referred to the peripheral distribution of the nerve, *i.e.*, not to the lips, chin, ala of the nose, rather to the cheek, temple, orbit, in front of, or behind the ears, and occasionally to the jaws. The pain does not radiate along the course of one or other nerve tract, it seems unrelated to any anatomic distribution. It will jump across from one zone of the three divisions to another, but never to the periphery. The pain extends beyond the trigeminal territory, behind the ear, to the submaxillary region, to the shoulder and arm. In the majority of cases, the pain is described, as drawing or pulling. The thought of pressure disturbance seems dominant, the tissue of the region feels as though under tension; or the pain may be described as burning, an ache, sometimes boring or throbbing, rather than cutting, stabbing or tearing. It is almost always referred to as deep in the orbit, deep in the cheek or temple, not superficial, or terminal. What is particularly noteworthy is, that it is constant, and not intermittent

or paroxysmal, though varying in its intensity. It is relieved by opium, and is often as bad by night, as by day."

It is important to recognise true tic from the atypical case. This may be difficult at times, on clinical grounds, but blocking the trigeminal pathways by alcohol injection of the suspected branch or branches involved, will always give immediate relief to trigeminal neuralgia, whereas the atypical case remains unaffected. Unfortunate, indeed, is the surgeon who sections the sensory root of the 5th nerve, to find that he still has under his care a patient who is not relieved of his neuralgia.

Treatment

There is only one effective treatment of trigeminal neuralgia, and that is blocking of the nerve in some part of its course. Sedatives have no effect on the pain, therefore these people seldom become drug addicts.

Inhalations of trichlorethylene or chloralone, which is supposed to have a selective paralysing effect on the 5th nerve has been reported to give relief in about 10 to 15% of patients, but in my hands it has not proved effective. Vitamin B₁ and cervical sympathectomy are likewise ineffective.

There are two methods of blocking the pathway of the 5th nerve; by alcohol injection of the branch or branches involved; or by section of the sensory root, proximal to the gasserian ganglion.

Injection at the supraorbital, infraorbital, or mental foramina is unsatisfactory and usually of short duration. A satisfactory injection is accomplished by introducing a needle below the zygoma to a depth of about 5 cm., into the pterygoid fossa, where the nerve is located, with the assistance of the patient, who indicates when the typical pain is felt. Following a satisfactory injection there is complete anesthesia over the distribution of the injected branch. Needless to say this injection must be done with a conscious patient, as good co-operation is necessary to ensure the operator locating the nerve. Such an injection gives complete relief from pain for a period of from 8 to 14 months, and may be repeated many times.

It is preferable to inject most patients once, not only from a diagnostic point of view, but because it demonstrates to the patient the permanent loss of sensation that will be produced by nerve section at a later date.

Another valuable indication for injection treatment is the debilitated patient, who is a poor operative risk. No case should suffer this complaint because they are unable to stand an operation.

Operation

Operative treatment is limited to three procedures:— (1) Section of the sensory root, after exposing the gasserian ganglion in Meekel's Cave, the approach being made extradurally through the

middle fossa; (2) Section of the 5th nerve, close to the brain stem, the approach being made through the posterior fossa by elevating the cerebellar lobe; (3) Tractotomy in the medulla.

The first mentioned is the approach generally chosen, and the only one I will describe. At this site one can roughly divide the sensory route into thirds, each third corresponding to one of the divisions of the 5th nerve. The lateral third represents the mandibular division, the middle third the maxillary division, and the medial third the supraorbital division. It is thus evident that one can do a differential section. The importance of this is, that sensation to the cornea is supplied through the supraorbital branch, and as this branch is rarely involved in trigeminal neuralgia, section of the outer two thirds of the sensory root is all that is required to cure the patient. He is then left with a normal eye. Loss of sensation to the cornea is an inconvenience, sufficiently troublesome to be avoided if possible.

Situated immediately behind, and actually running in a groove in the posterior surface of the sensory root, is the motor root, which is easily distinguished, separated, and preserved at operation. As the motor root supplies the muscles of mastication, it is desirable to spare it.

The sensory root proximal to the ganglion is non medulated, therefore section of any part of it is followed by no regeneration. The effect of section is permanent.

Recurrence of the neuralgia in the supraorbital branch seldom occurs after section of the sensory root supplying the two inferior divisions, providing this branch was not involved before operation.

Trigeminal neuralgia is occasionally bilateral, and can be cured by operation on each side, in two stages, just as completely as if it were unilateral.

The mortality from this operation is extremely low, in spite of the fact that most of these cases are over 50 years of age. A mortality of 2 to 3% is a generous estimate. Several series of over a hundred cases are reported without a death. I have now operated on more than 35 cases without mortality.

Facial paralysis is a post-operative complication which should be mentioned. Although only temporary, and not serious, it may be very distressing while it lasts. It occurs in 4% or 5% of cases, and is caused by forcible retraction in a difficult exposure. It always clears up in a few weeks.

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Editorials and Association Notes

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6 years: Re-vaccination against Smallpox.
Repeat Schick test.

—Adapted from Kolmer: *Modern Medicine*, April, 1941, p. 47.

Case Report

Traumatic Rupture of the Bowel at the Duodeno-Jejunal Flexure with Recovery

by

H. F. CAMERON, M.D., F.R.C.S. (Ed.)

*Assistant Surgeon, Winnipeg General Hospital
 Demonstrator in Surgery, University of Manitoba*

This case is considered to be of interest for the following reasons:

1. A case of ruptured bowel due to direct violence in a patient only four years of age.
2. The recovery of the patient although she was not operated upon until thirty hours following the accident.
3. The development of a high intestinal fistula after operation which healed spontaneously.

The patient (M.B.), a little girl four years of age, was first seen in consultation with Dr. L. A. Sigurdson, at 9.30 p.m. on November 26th, 1939. The history obtained was as follows: About 5 p.m. on the preceding day, the child was playing at a window outside her home and pulled over a window-box filled with earth. The box, which weighed approximately 50 pounds, fell upon the child, striking her on the upper part of the abdomen. She cried and complained of pain in the abdomen and had to be carried into the house. The parents examined her abdomen and could see no external sign of injury. During the evening, she complained intermittently of pain but the parents were not unduly alarmed. She refused solid food that night and vomited all liquids taken. The next day she again complained of discomfort and refused food, vomiting several times during the day.

Examination

On examination about 28 hours after the injury, the child appeared very ill. She was listless and preferred to lie on her right side. All the signs of shock were noted, with a sub-normal temperature and a weak rapid pulse of 150 per minute. The abdomen was moderately distended but moved with respirations. There was a small area of ecchymosis over the left upper rectus which had not been noted previously. There was no definite area of tenderness, no palpable mass, no muscular resistance or rigidity. The rectal examination was negative. On percussion over the liver area, liver dullness seemed normal. A tentative diagnosis of ruptured viscus was made and immediate admission to hospital was advised.

On admission to the Misericordia Hospital, the child was placed on her left side for about 20 minutes, in order to allow any free gas, which might be present in the peritoneal cavity, to collect over

the right lateral surface of the liver. A plain X-ray was taken to show the right edge of the liver. A small bubble of free gas was seen between the liver and the diaphragm, and the above diagnosis was confirmed. Immediate operation was advised.

Operation

A general anaesthetic was given and the abdomen opened by a right upper paramedian incision. On opening the peritoneum, there was noted an excessive amount of turbid fluid which was aspirated. The anterior surface of the stomach, pylorus and first part of duodenum were examined and found normal. A large amount of fluid was aspirated during this time from the peritoneal cavity, the lesser sac, and Morrison's Pouch. The transverse colon was next drawn up and examination of the small bowel was started. There was peritonitis present with injection of the serosa and small patches of exudate could be seen on the coils of jejunum. It was considered that the duodeno-jejunal flexure should be exposed as a likely site of injury, since it is a fixed part of the gut. Some difficulty was experienced in tracing the bowel due to insufficient exposure, so the wound was enlarged in a T-shaped manner with a transverse incision across the left rectus above the umbilicus. When this was done, the underlying coils of the small bowel, which were slightly adherent, were separated and a large amount of bile-stained fluid escaped. This fluid was aspirated and the jejunum traced to the flexure. At this site a tear of the bowel was seen on the posterior aspect of the duodeno-jejunal flexure. Bile-stained contents could be seen escaping from the tear in the bowel wall, which was large enough to admit the tip of the index finger. The bowel wall at this site was very oedematous, red, and friable. Four interrupted intestinal sutures were introduced to approximate the edges of the tear, parallel to the long axis of the gut. No attempt was made to invert the suture line. The last suture to close the proximal edge of the perforation was very close to the parietal peritoneum at the flexure. The free edge of the great omentum was brought down to the site of repair and also the end of a $\frac{1}{2}$ " hard rubber tube. The tube was brought out the lateral end of the wound and closure of the wound completed.

The child's condition was considered very precarious and intravenous infusion of 300 c.c. of 10% glucose saline solution was given. In addition, while still on the operating table, a nasal duodenal tube was passed which was connected up for continuous duodenal aspiration on her return to the ward.

Post Operative Course

The following day, a blood transfusion (300 c.c. of citrated blood) was given. About 36 hours after operation the wound was dressed and the hard rubber tube was shortened about $\frac{1}{2}$ ". There was noted to be a moderate amount of yellowish-green discharge present. At this time a sterile

catheter was passed down the hard rubber tube and connected to an electric suction machine to provide continuous aspiration of the drainage tube, as an intestinal fistula was anticipated. The child was allowed fluids freely by mouth and there was continuous suction by nasal catheter and from the drainage tube reaching to the site of a possible fistula.

On the third day, some charcoal was given by mouth and the charcoal appeared via the drainage suction in about $\frac{1}{2}$ hour, establishing the fact that a fistula was present. The bowels moved daily from the first post-operative day, and the stools were at first green in color. On the third day soft solid diet was allowed and the stools were brown in color. From the third to the seventh day the amount aspirated by the catheter in the drainage tube varied from 700-1100 c.c. in each 12 hours. On the seventh day the nasal tube was removed and the sutures removed from the wound. The skin edges separated but there was no digestion of the wound and the underlying layers remained sound. On the same day, a second blood transfusion of 300 c.c. was given which seemed to improve the patient's general condition very markedly. From the 7th to the 11th day, the amount of fluid aspirated from the fistula rapidly decreased and amounted to only 50 c.c. in 24 hours. The drainage tube was removed on the 12th day.

During the time that there were bowel contents escaping, the wound and surrounding skin was protected by a mixture of castor-oil and zinc oxide (equal parts) over-laid with oiled silk. This seemed to protect the wound and skin very well from the action of digestive juices. There was no digestion of the wound and no excoriation of the surrounding skin. There was a purulent discharge from the track of the drainage tube for about two weeks after the tube was removed. From the first post-operative day, the bowels moved at least once a day. The wound healed slowly by granulation and was well healed on discharge from hospital, January 10th, 1940, which was forty-six days after her operation. The patient's convalescence was uneventful and she was seen every month for about one year following the operation. When last seen on March 14th, 1940, she had gained considerable weight, the wound was quite healed, and her general health appeared excellent.

Comment

A case of high intestinal rupture with subsequent fistula formation of short duration is here reported, in which the following features appear worthy of emphasis:

1. A plain X-ray plate was very valuable in making an accurate diagnosis.
2. Two blood transfusions in the first post-operative week were noted to have a markedly beneficial effect in the recovery. Daily administration of fluids intravenously and by proctoclysis were an essential part of the after treatment.

3. The use of continuous nasal suction for the first week and continuous suction via the drainage tube until the fistulous discharge stopped would appear to have influenced an unusually rapid closure of a high intestinal fistula.
4. A paste of castor-oil and zinc oxide (equal parts) over-laid with oiled silk proved a satisfactory method in this case in protecting the wound and surrounding skin from the action of the small amount of digestive juices which escaped around the drainage tube in spite of continuous aspiration.
5. The passage of stools daily from the first post-operative day was an encouraging feature. The color was brown on the third day indicating the presence of bile. This indicated a patent lumen and allowed the institution of a soft solid diet from the third day.
6. Careful aspiration of the peritoneal cavity at the time of operation may have contributed to the absence of later abscess formation either locally, in the pelvis, or elsewhere, which was more or less expected in view of the length of time which elapsed between injury and operation.

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OBITUARY

DR. CHARLES FRANKLIN BENSON

Dr. Charles Franklin Benson, 32, died in Winnipeg on June 3rd. He received his M.D. degree from the University of Manitoba in 1936 and practiced for nearly five years at McCreary. He is survived by his brothers and sisters and his parents.



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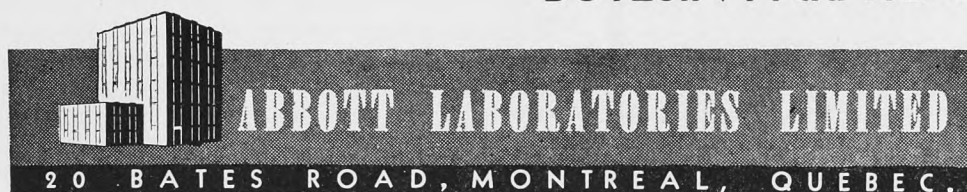
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Personal Notes and Social News

Conducted by Gerda Fremming, M.D.

Surgeon - Lieutenant Edward Sellers, R.C.N.V.R., Victoria, formerly of Winnipeg, and Mrs. Sellers, are receiving congratulations on the birth of a son.

♡ ♡ ♡

Dr. and Mrs. Hugh Cameron are receiving congratulations on the birth of a son, Hugh Fraser McKenna.

♡ ♡ ♡

Dr. and Mrs. W. A. McElmoyle are being congratulated on the birth of their third daughter, Dorothy Susanne.

♡ ♡ ♡

The engagement is announced of Dr. Archibald Frost Hardymont, '36, of Calgary, to Miss Charlotte Mayors Ward, also of Calgary, the marriage to take place late in June.

♡ ♡ ♡

The marriage of Dr. Robert Ormandy Flett to Miss Dorothy Elizabeth Dahl took place June 25th at the home of the bride's parents.

♡ ♡ ♡

Dr. Frederick Newman Sparling was married on June 7th to Miss Catherine Ruth Paterson, daughter of Mr. and Mrs. Thomas E. Paterson.

♡ ♡ ♡

Dr. Alexander Wilson Andison, '35, of Preston, Lancashire, was married early in June to Miss Edith Mary Pearson, daughter of Mrs. L. Pearson, of Barrow in Furness.

♡ ♡ ♡

We offer our heartiest congratulations to Dr. John M. Lederman and Dr. Harriet Perry who were married June 7th.

♡ ♡ ♡

Dr. Dorothea M. Wardrop, '39, of the Royal Victoria Hospital, Montreal, is spending her holidays in Winnipeg, the guest of her parents.

♡ ♡ ♡

Capt. Brock Fahrni, R.C.A.M.C., was married on June 28th, to Margaret, daughter of the Hon. and Mrs. William Morton, of Gladstone, Man.

♡ ♡ ♡

Dr. T. H. Cuddy attended the American Medical Convention in Cleveland, Ohio, this month.

♡ ♡ ♡

Dr. Murray McLandress and Dr. Claire Wilson, both '41 graduates, have joined the Royal Canadian Navy as surgeon-lieutenants.

♡ ♡ ♡

Dr. J. E. Hudson is practicing with his father, Dr. E. D. Hudson of Hamiota, Man.

♡ ♡ ♡

Dr. J. H. Moore of Kincaid, Sask., is now with the C.A.M.C.

Dr. W. J. Boyd of Roland, Man., is now with the R.C.A.F. in Eastern Canada.

♡ ♡ ♡

Dr. J. S. Holowinski, formerly of Beausejour, Man., is now located at Sandy Lake, Man.

♡ ♡ ♡

Dr. M. J. DeKoven, formerly of Whitemouth, Man., is now with His Majesty's Forces at Sydney, N.S.

♡ ♡ ♡

Dr. Jack Margulius, '37, and Mrs. Margulius of New Westminster, B.C., have a baby daughter aged four and a half months.

♡ ♡ ♡

Dr. J. M. Ridge has started practice at Hodgson, Man.

♡ ♡ ♡

Dr. Agnes Helen Thomson, '33, daughter of Dr. J. R. Thomson, Winnipeg, is now at Orillia, Ont.

♡ ♡ ♡

Dr. R. S. C. Corrigan, formerly of Hodgson, Man., is now located at Norway House, Man.

♡ ♡ ♡

Dr. Q. D. Jacks of Brandon, Man., is now attached to the R.C.N.V.R. at Winnipeg.

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Department of Health and Public Welfare

Before taking the final examination in Preventive Medicine at the Faculty of Medicine of the University of Manitoba last year, it was necessary for the students to submit an article on certain selected subjects. It is the intention of the Department to publish the best of these in the next few bulletins. The one for this month is written by Dr. W. R. Fox, who interned at St. Joseph's Hospital, St. Paul, Minnesota. It was prepared on the subject "The Method of Gathering Vital Statistics and Their Value from the Standpoint of Public Health."

"The Method of Gathering Vital Statistics and Their Value From the Standpoint of Public Health"

Vital statistics is defined as the application of statistical methods to the study of populations. They commonly include statistics of population, births, marriages, deaths and the occurrence of disease and the conditions attending these events.

All studies of vital statistics are based upon the population of the area under consideration and are usually expressed as rates giving the number per one thousand inhabitants or class of inhabitants. In order to compare different communities, or different periods, all births, marriages, deaths and the incidence of disease must be based on a common unit of population. A valuable method of obtaining this comparison is the use of the census tract population units which are small geographic areas of fixed boundaries in which the birth and death or other pertinent statistics are correlated with those bearing on social, economic and environmental conditions pertaining to the same units of population. By these means are gained new concepts of our health problems.

The methods of obtaining data for vital statistics are of two ways, either enumeration or registration.

By means of the census a fund of data is obtained especially as to the population, social and environmental conditions of the nation. The census is taken every ten years by the Federal Government and sometimes more frequently by states, provinces and cities. Statistics of population for use in vital statistics must show the number of inhabitants of an area, classified by age, sex, nativity, race and occupation.

The registration of births, marriages, deaths and reporting of disease entails the co-operation of the medical profession or other related bodies and upon the accuracy of their reports depends the accuracy of the vital statistics as used by the Public Health authorities.

Population Statistics

The census is taken every ten years by the Federal Government and many cities and provinces take decennial census in the periods between the Federal census. The census must be taken at a time when there will be a maximum number of individuals in their homes and spring is considered the best period for this.

The census is subject to error due to overlooked persons, wrong ages given, and recording of occupations wrong, but the actual margin of error is only about one percent, and these facts must be taken into consideration when using these statistics.

There are constant fluctuations in population due to immigration, births and deaths. The changes due to immigration are usually irregular while those due to births and deaths are usually constant. The natural increase in population is that due to the increase of births over deaths.

For purposes of vital statistics the population is calculated for periods between censal periods by either arithmetical means (calculating the natural increase for a previous ten year period and basing the rate of increase on that calculation) or geometric means which is based on the principle of compound interest.

Marriage Statistics

These statistics are of interest because of the insight they give into the social life of the people, the establishment of families and their influence on the birth rate.

Marriage statistics are obtained by the registration of the applications for marriage licenses.

The marriage rates may be expressed as the number of marriages for each one-thousand population or better yet by the number of marriages or persons married for each one-thousand unmarried, divorced or widowed of marriageable age.

Birth Statistics

These are secured by the birth of a child being required to be registered with the authorities by the attending physician, midwife or the parents. The information gained is used for two purposes (1) to identify the baby and (2) for purposes of statistics. There are several ways of expressing birth rates:

- (1) Rate or number per one-thousand population. Crude birth rate.
- (2) Rate per one-thousand women of child bearing age.
- (3) Births may be classified as legitimate and illegitimate, single or multiple, by sex, according to age, birthplace and racial origin of parents.
- (4) Still births are in a separate class given as the number per one-thousand living births.

Morbidity Statistics

These are statistics of sickness and disease. They are usually most easily obtained by registration of the diseases by the physician. These figures are not a true representation however of the morbidity because, not all sick people visit a physician and not all physicians register their cases.

A much more accurate but more expensive means of obtaining data is to interview families from a representative sample of the population.

Mortality Statistics

These are obtained by means of registration. Practically complete returns are secured of deaths. Errors are not uncommon due to faulty diagnosis and also to vague and general terms used in diagnosing a condition. Various methods of expressing death rates are:

- (1) Crude or general death rate - ratio between entire population and the deaths which occur in a year.
- (2) Specific death rate - Rates specific for age, sex, cause of death, etc.
- (3) Infant mortality rate - number of deaths under one year of age per one-thousand living births.
- (4) Maternal mortality rate - number of deaths from puerperal causes per one-thousand living births.

- (5) Standardized death rate - the rate is corrected for differences in distribution of the population for purposes of comparison of one community with another.

Value of Vital Statistics to Public Health

The success of a sound public health program is dependent on:

- (1) A widespread interest and understanding on the part of the community of its health needs and the adequacy of the health services.
- (2) The proper and continuous use of vital statistics to bring these facts before the public in order to secure its cooperation.

The chief measures of public health are morbidity and mortality statistics. Gross mortality rates cannot be translated into terms of illness because chief causes of deaths are so different from chief causes of illness and a person dies but once but is sick many times in a lifetime.

The use of illnesses instead of deaths to measure needs for health services would greatly alter the present distribution of public health effort, as shown by the fact that there are practically one hundred illnesses each year for every death. There is a great preponderance of respiratory illnesses in morbidity causes, against which few health efforts are made—as compared with the general diseases against which public health effort is mainly directed and only causes eleven percent of all illness. These few examples only show a few of the ways in which public health efforts may be distributed so as to get proportionate reward for efforts expended.

Also by analysis of the mortality rates and the chief causes of death it is seen there is more chronic illness in old people, and that, of the ten commonest causes of death (79% of total deaths) tuberculosis is the only disease receiving any attention.

Morbidity reports are used in various ways to show the occurrence of communicable diseases and as clues to locate the foci of infection, as an aid in remedying faulty conditions in occupational diseases. They also show the need for sanitary measures to eradicate causes of disease.

Morbidity reports are the most important data for use in directing a health department because it shows the cause of ill health at the time rather than waiting until after death, but where these reports are lacking, or inadequate, mortality rates may be effectively employed as a guide and standard. Attention is paid to the trend of the crude death rate and the more important diseases contributing to this mortality noted, in order to prevent those diseases, which are of preventable nature. These rates are compared with similar records of other communities and efforts made to lower these rates, and these comparisons are used as criteria of the value which the Public Health department is in meeting local needs.

The correlation of vital statistics with economic indices brings out valuable concepts of health problems, showing that there are two main cycles in living environment—the **low** extreme of bad housing, unfavorable environment, inadequate early medical care with a high incidence of preventable disease and mortality, and the **upper** extreme of favorable environment, reasonably adequate medical care and low incidence of preventable disease and mortality.

The monthly rentals of dwellings serves as a fairly accurate index of the economic status of the population in absence of exact income data.

Vital Statistics besides being used by Public Health authorities for their own guidance, serve a valuable purpose in educating the public as to its health needs.

If the figures are presented by means of news items or other means in a simplified, interesting and to the point, manner they are very effective in eliciting public interest by convincing him of his personal relationship to community health and by comparing his rates with those of his neighbors.

W. R. FOX,

St. Joseph's Hospital,
St. Paul, Minnesota.

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COMMUNICABLE DISEASE REPORT

April 23 - May 20, 1941

Measles: Total 287—Winnipeg 140, Flin Flon 33, Kildonan East 21, Rosser 18, Kildonan West 16, The Pas Town 13, Brandon City 6, Rockwood 3, St. James 3, Tuxedo Town 3, Boissevain 2, Norfolk South 2, Portage Rural 2, Portage City 2, Roblin Village 2, Silver Creek 2, Albert 1, Blanshard 1, Carberry Town 1, Dufferin 1, Morris Town 1, Shell River 1, St. Boniface 1, Virden Town 1 (Late Reported: Flin Flon 9, Ethelbert 1, Fort Garry 1).

Chickenpox: Total 154—Winnipeg 101, Kildonan East 12, St. Boniface 11, St. James 11, Dauphin Town 6, Daly 2, Rivers Town 2, Brandon City 1, Fort Garry 1, Selkirk Town 1, Ste. Anne 1, Transcona 1 (Late Reported: St. Boniface 2, Rossburn 1, Brandon 1).

Mumps: Total 114—Flin Flon 48, Winnipeg 32, Tuxedo 11, Fort Garry 6, Woodlands 2, Brandon 1, Carberry Town 1, Kildonan West 1, Sifton 1, The Pas Town 1 (Late Reported: Flin Flon 8, Minitonas 2).

Influenza: Total 51—Carberry Town 13 (Late Reported: Carberry Town 13, Lorne 4, Unorganized 4, Franklin 2, Oakland 1, St. Andrews 1, Plum Coulee 1, Shoal Lake Village 1, St. Clements 1, Woodworth 1, Boulton 1, Hamiota Rural 1, Hanover 1, Mossey River 1, North Norfolk 1, Rhineland 1, St. Paul West 1, The Pas 1, Pipestone 1).

Tuberculosis: Total 27—Winnipeg 9, Lorne 2, Brandon 1, Brenda 1, Brokenhead 1, Dauphin Rural 1, Dauphin Town 1, Dufferin 1, Glenwood 1, Hillsburg 1, Kildonan West 1, Lansdowne 1, Oakland 1, Rockwood 1, Selkirk Town 1, St. Andrews 1, St. Boniface 1, Winchester 1.

German Measles: Total 21—Brandon 17, Albert 1, Flin Flon 1, Macdonald 1, St. Boniface 1.

Scarlet Fever: Total 21—Winnipeg 12, The Pas Town 2, Charleswood 1, Daly 1, Kildonan East 1, Lansdowne 1, Swan River Rural 1, St. Boniface 1 (Late Reported: Brandon 1).

Lobar Pneumonia: Total 15—Lawrence 1, Ste. Rose Rural 1, Ste. Rose Village 1, Unorganized 1 (Late Reported: Daly 2, Ste. Rose Rural 1, Brandon 1, Cartier 1, Eriksdale 1, McCreary 1, Portage City 1, Stanley 1, Swan River Rural 1, Selkirk 1).

Whooping Cough: Total 9—St. Boniface 3, Archie 1, Arthur 1, Ste. Rose Rural 1 (Late Reported: Morris Rural 1, Archie 1, Brandon 1).

Erysipelas: Total 7—Winnipeg 2, Boissevain 1, Brandon 1, Rosser 1, St. Boniface 1, Unorganized 1.

Meningococcal Meningitis: Total 6—Winnipeg 3, Unorganized 2, St. James 1.

Diphtheria: Total 4—Winnipeg 4.

Typhoid Fever: Total 2—(Late Reported: Selkirk 2).

Puerperal Fever: Total 2—Unorganized 1 (Late Reported: Portage 1).

Anterior Poliomyelitis: Total 1—Eriksdale 1.

Encephalitis: Total 1—Rivers 1.

Tetanus: Total 1—St. Paul West 1.

Venereal Disease: Total 107—Gonorrhoea 67, Syphilis 40.

DEATHS FROM COMMUNICABLE DISEASE

April, 1941

URBAN—Cancer 60, Tuberculosis 6, Pneumonia Lobar 3, Pneumonia (other forms) 4, Influenza 1, Lethargic Encephalitis 1, Puerperal Septicaemia 1, Syphilis 1, other deaths under one year 20, other deaths over one year 184, Stillbirths 10. Total 291.

RURAL—Cancer 30, Tuberculosis 12, Pneumonia Lobar 6, Pneumonia (other forms) 11, Influenza 7, Lethargic Encephalitis 1, Whooping Cough 1, other deaths under one year 18, other deaths over one year 167, Stillbirths 17. Total 270.

INDIANS—Tuberculosis 4, Pneumonia (forms other than Lobar) 3, Influenza 2, other deaths under one year 2, other deaths over one year 3, Stillbirths 2. Total 16.

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While there is no established therapeutic indication for vitamin E, experimental use indicates possible value in habitual and threatened abortion and in certain muscular dystrophies which may or may not include amyotrophic lateral sclerosis, progressive muscular dystrophy and muscular atrophy.

In the management of habitual abortion due to vitamin E deficiency, it is suggested that one to three Capsules Tocopherex daily be used, continued through eight and one-half calendar months of pregnancy. For threatened abortion, six capsules within 24 hours is suggested, possibly continued for one or two weeks—with a return thereafter to the maintenance dosage.

For experimental use in muscular dystrophies, a dosage of three capsules two times daily is suggested, combined with generous amounts of a vitamin B complex concentrate.

Tocopherex has been used extensively clinically and has not produced any untoward effects when taken orally.

Tocopherex (Squibb Natural Mixed Tocopherols in Oil) is supplied in capsules containing the equivalent of 40 milligrams of mixed tocopherols (alpha, beta and gamma), packaged in bottles of 25 and 100 capsules.

—Adv.

"Never give a definite opinion as to how long a patient suffering from pulmonary tuberculosis will live, for the only certainty is that if you do, you will be wrong."—*Samuel Gee.*

Disease	Manitoba April 23 to May 20	Ontario April 21 to May 17	Saskatchewan April 21 to May 17	Minnesota April 21 to May 17
Anterior Poliomyelitis	1	2		
Meningococcal Meningitis ..	6	51	2	3
Chickenpox	150	696	115	528
Diphtheria	4	31	19	33
Erysipelas	7	11	2	4
Influenza	13	53		7
Encephalitis	1			
Measles	277	5,819	364	127
German Measles	21	4,145	125	
Mumps	104	927	87	
Puerperal Fever	1	2		
Scarlet Fever	20	663	32	176
Septic Sore Throat		25		
Smallpox			10	5
Tuberculosis	27	190	42	169
Typhoid Fever and Para- Typhoid Fever		7		2
Psittacosis		5		
Undulant Fever		7		
Whooping Cough	6	691	24	435
Tetanus	1	1		

SMALLPOX is again reported from Saskatchewan and Minnesota.

WHOOPING COUGH, SCARLET FEVER, MEASLES and DIPHTHERIA in Manitoba during the past two months are well below last year's figures and also those of the five year average.

HIS FIRST CEREAL FEEDING

The baby's first solid food always excites the parent's interest. Will he cry? Will he spit it up? Will he try to swallow the spoon? Far more important than the child's "cute" reactions is the fact that figuratively and physiologically, the little fellow is just beginning to eat like a man.

It is a fortunate provision of Nature that at the time the infant is ready to receive the nutritional benefits of cereal, his taste is unspoiled by sweets, pastry, condiments, tobacco, alcohol and other things to which adult palates and constitutions have become conditioned.

Many a parent, with limited knowledge of nutrition, attempts to do the baby's tasting for him. Partial to sweets, the mother sweetens her child's cereal. Disliking cod liver oil, she wrinkles her nose and sighs: "Poor child, to have to take such awful stuff!" The child is quick to learn by example, and soon may become poor indeed—in nutrition, as well as in mental habits and psychological adjustment.

Appreciating the importance and difficulties of the physician's problem in establishing and maintaining good eating habits, Mead Johnson & Company continue to supply Pablum in its natural form. No sugar is added. There is no corresponding dilution of the present protein, mineral and vitamin content of Pablum. Is this not worth while? —Adv.

"Medicine is an art, but it is an art which is always trying to become a science."—*Lindsay.*

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